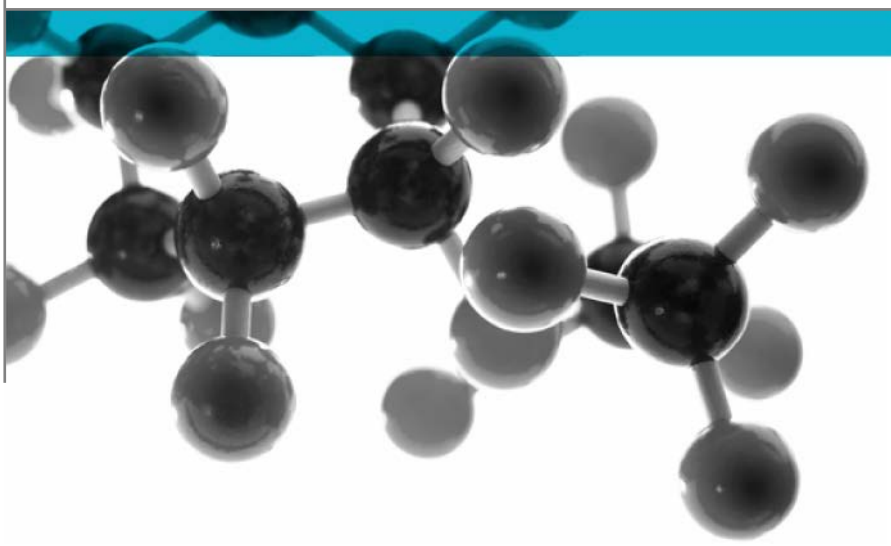
Exova Warringtonfire
Holmesfield Road
Warrington
WA1 2DS
United Kingdom

T : +44 (0 1925 655116
F : +44 (0) 1925 655419
E : warrington@exova.com
W: www.exova.com

NFP 92-503



Electric Burner Test

A Report To: SMD Contracts Ltd.

Document Reference: 405556

Date: 2nd November 2018

Issue No.: 1

Testing
Advising
Assuring

UKAS TESTING
0249

Executive Summary

Objective To determine the performance of the following product when tested in accordance with NFP 92-503.

Generic Description	Product reference	Thickness	Weight per unit area
Flame retardant grade polyester	"Atmosphere"	0.74mm*	400g/m²
***determined by Exova Warringtonfire**			
Please see page 5 of this test report for the full description of the product tested			

Test Sponsor SMD Contracts Ltd., Pitman Way, Fulwood, Preston, PR2 9ZD

Test Results: **The results of this test, when assessed together with the results of the supplementary tests NFP 92-504 and NFP 92-505 test detailed in EWF No. 405557 & EWF No. 405558 respectively in accordance with the stipulations of the order from the Ministere de l'Industrie et de la Decentralisation, dated 28th August 1991 relating to reaction to fire, indicate that the specimens, as tested, are classified as M1.**

Date of Test 18th October 2018

Signatories

Responsible Officer T. Mort * Senior Technical Officer	Authorised S. Deeming * Business Unit Head

* For and on behalf of **Exova Warringtonfire**.

Report Issued: 2nd November 2018

CONTENTS **PAGE NO.**

Test Details

Purpose of test

To determine the performance of specimens of a product when they are subjected to the conditions of the test specified in NFP 92-503 "Building – Reaction To Fire Tests; Electric Burner Test For Flexible Materials".

The test was performed in accordance with the procedure specified in NFP 92-503 and this report should be read in conjunction with that Standard. The specimens were not subjected to the accelerated ageing test.

Scope of test

NFP 92-503 specifies a method of test which subjects test specimens to the effects of radiant heat and hot gases sweeping the surface of test specimens under specified conditions. A pilot flame is used to ignite any pyrolysis gases which may be formed. Ignition times, flame persistence and the nature of combustion and its effects are noted.

Fire test study group/EGOLF

Certain aspects of some fire test specifications are open to different interpretations. The Fire Test Study Group and EGOLF have identified a number of such areas and have agreed Resolutions which define common agreement of interpretations between fire test laboratories which are members of the Groups. Where such Resolutions are applicable to this test they have been followed.

Instruction to test

The test was conducted on the 18th October 2018 at the request of SMD Contracts Ltd., the sponsor of the test.

Provision of test specimens

The specimens were supplied by the sponsor of the test. **Exova Warringtonfire** was not involved in any selection or sampling procedure.

Conditioning of specimens

The specimens were received on the 8th October 2018.

Prior to testing the specimens were conditioned to constant mass at a temperature of 23 ± 3°C and a relative humidity of 50 ± 10%.

Specimen orientation

Both faces of the specimens was exposed to the radiant heat of the test when the specimens were mounted in the test position.

Description of Test Specimens

The description of the system given below has been prepared from information provided by the sponsor of the test. This information has not been independently verified by **Exova Warringtonfire.**

All values quoted are nominal, unless tolerances are given.

Generic type	Flame retardant grade polyester
Product reference	"Atmosphere"
Name of manufacturer	Ashi Home
Weight per unit area	400g/m² (stated by sponsor) 329.71g/m² (determined by **Exova Warringtonfire**)
Thickness	0.74mm (determined by **Exova Warringtonfire**)
Colour reference	"Light" "Multi" (observed by **Exova Warringtonfire**)
Type of weave	Jacquard
Thread count or threads per inch (TPI)	**See Note 1 below**
Yarn count	**See Note 1 below**
Generic type of flame retardant	**See Note 1 below**
Brief description of manufacturing process	Woven jacquard

Note 1. The sponsor of the test was unable to provide this information.

Test Results

Test results

The results of the tests are given in Table 1.

Observations taken during the test

In the case of each specimen a hole formed along the sample during the first 10 seconds of the test, resulting in there being no material present in the region of the burner**.**

In the case of each specimen tested, non-flaming droplets were observed.

Classification

The results of this test, when assessed together with the results of the supplementary tests NFP 92-504 and NFP 92-505 test detailed in EWF No. 405557 & EWF No. 405558 respectively in accordance with the stipulations of the order from the Ministere de l'Industrie et de la Decentralisation, dated 28th August 1991 relating to reaction to fire, indicate that the specimens, as tested, are classified as M1.

The indicated classification in no way prejudges the conformity of the materials commercialised to the samples submitted to the tests and can in no way be considered as a certificate of qualification as defined by the act of 10th January 1978. This conformity can be tested by the certificates of qualification acknowledged by the "Ministère de l'Industrie" and notably by the NF quality mark Réaction au feu.

The test procedures for classifying flexible materials of less than 5mm thickness are detailed in Appendix 1 to this report.

Durability of classification

The accelerated aging test has not been conducted

Applicability of test result

The test results relate only to the behaviour of the test specimens of the product under the particular conditions of test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use.

The test results relate only to the specimens of the product in the form in which they were tested. Small differences in the composition or thickness of the product may significantly affect the performance during the test and may therefore invalidate the test results. Care should be taken to ensure that any product which is supplied or used is fully represented by the specimens which were tested.

Validity

The specification and interpretation of fire test methods are the subject of ongoing development and refinement. Changes in associated legislation may also occur. For these reasons it is recommended that the relevance of test reports over five years old should be considered by the user. The laboratory that issued the report will be able to offer, on behalf of the legal owner, a review of the procedures adopted for a particular test to ensure that they are consistent with current practices, and if required may endorse the test report.

Table 1

Initial Test Results

Specimen No.	Combustion Time (seconds)	Extent of Damage (mm)		Formation of Droplets	Non -Burning	Burning
		Length	Width			
1	0,0,0,0,0,0,0,0,0,0	160	-	Yes	Yes	No
2	0,0,0,0,0,0,0,0,0,0	160	-	Yes	Yes	No
3	0,0,0,0,0,0,0,0,0,0	150	-	Yes	Yes	No
4	0,0,0,0,0,0,0,0,0,0	155	-	Yes	Yes	No

On the basis of the results obtained during the initial tests, the formal test was completed on specimens cut in the direction of production with the 'outer' face exposed.

Formal Test Results

Specimen No.	Combustion Time (seconds)	Extent of Damage (mm)		Formation of Droplets	Non -Burning	Burning
		Length	Width			
1	0,0,0,0,0,0,0,0,0,0	160	-	Yes	Yes	No
5	0,0,0,0,0,0,0,0,0,0	110	-	Yes	Yes	No
6	0,0,0,0,0,0,0,0,0,0	90	-	Yes	Yes	No
7	0,0,0,0,0,0,0,0,0,0	110	-	Yes	Yes	No

Average Value for Combustion Times: 0 seconds
Average Extent of Damaged Length: 117.5 mm
Average Extent of Damaged Width: - mm

The specimens are designated "M1"

Appendix 1

Test Procedures For Classifying Flexible Materials Less Than 5mm Thick

Heat Radiation Test

(Articles 26 to 42)

These tests consist in submitting the samples, in clearly defined conditions, to the action of a radiating heat source and producing:

a) Ignition of the gases released, if it occurs,
b) Flame propagation.

The test sample (60 x 180 cm) inclined at 30º is submitted to a clearly defined radiation, emitted by an electric radiator, whose surface is 3.0 cm below the surface of the test sample. The gases released pass in contact with gas igniters located on either side of the test sample.

The duration of the test is 5 minutes.

Complementary Tests

Article 42: The materials which display very special behaviour during the tests are submitted to complementary tests.

Tests on Fusible Materials (Articles 43 to 45)

70 mm side square samples, so as to obtain a weight of over 2 g, are installed on a clearly defined metal grid, and submitted to the radiation of a radiator located 3.0 cm above. On each ignition it is moved aside and replaced after extinction, during the first 5 minutes; then for 5 further minutes, it remains in position.

The determining elements are:

- The presence or not of burning drops
- The ignition of the cellulose wool placed under the test sample.

Flame Propagation Tests (Articles 46 to 48)
The test sample (460 x 250mm) is submitted to the action of a small burner flame. The non-persistence or non-propagation of the flame is checked with the possible speed of propagation being checked between 2 marks 25cm apart.

Conditioning of the Samples

The samples submitted with normal dimensions are kept in a conditioned enclosure (23°C ± 3°C and 50% ± 10% relative humidity) until their mass has stabilised.

Classification of Materials

(Articles 65 to 86)

These are established subsequent to the above tests. Combustible materials are classified M.1, M.2, M.3, M.4. Only those materials classified M.1 can claim to M.0 classification (P.C.S. < 2500 kJ/kg, i.e. 600 kcal/kg).

Durability

(Appendix 22)

To determine the durability of the classification, the tests are made in accordance with chapters 1 and 2 of appendix 22 which define the type of test to be applied to the material, depending on its nature, its use and its method of maintenance.

Revision History

Issue No :	Re-issue Date:
Revised By:	Approved By:
Reason for Revision:	

Issue No :	Re-issue Date:
Revised By:	Approved By:
Reason for Revision:	